



**FERNALD PROGRESS  
PHOTO ALBUM  
FEBRUARY 1998**



# SITE IMPROVEMENTS PROJECT



6803D-24



6803D-28



# SITE IMPROVEMENTS PROJECT

## Shandon Yard

**The Site Improvements Project (SIP) is the initial phase of post-Record of Decision Construction activities supporting Operable Unit 1, now known as the Waste Pits Remedial Action Project (WPRAP). The SIP consists of site clearing and grading, utilities and stormwater management system installation, and rail improvements and upgrades.**

***(Both Photos)***

- **CSXT laborers are installing new rail in Shandon Yard to facilitate the new switch to the Fernald site.**



# SITE IMPROVEMENTS PROJECT



63490-1297



63490-1299



# SITE IMPROVEMENTS PROJECT

## Locomotive Maintenance Building

The locomotive maintenance building will serve as the on-site facility for the repair and maintenance of the site's locomotive, and possibly rail cars. It will have a pit to allow servicing from underneath the units, facility heating to allow easy starting, and tool storage for maintenance.

*(Both Photos)*

- Track leveling operations continue in the North Rail Yard.



# ON-SITE DISPOSAL FACILITY (OSDF)



63190-1139



63190-1147



# ON-SITE DISPOSAL FACILITY (OSDF)

## Material Transfer Area

Debris from site remediation activities will be staged in the Transfer Area prior to its movement to the OSDF. The debris will be moved to the Transfer Area in roll-off boxes, sea-land containers, or on pallets.

*(Both Photos)*

- An Operating Engineer grades the surface of the OSDF Material Transfer Area. Gravel will be placed over the prepared soil surface.



# FACILITIES SHUTDOWN PLANT 8



6681-76D



6681-79D



## FACILITIES SHUTDOWN PLANT 8

**Safe Shutdown work involves removing holdup material from equipment and lines in the former production buildings, in advance of building decontamination and dismantling.**

*(Left Photo)*

- **A HazWat removes residual holdup material from the Number 2 Oxidation Furnace.**

*(Right Photo)*

- **A Radiological Technician utilizes non-destructive assay techniques to determine the radiological contents of a gear box.**



# BOILER/WATER PLANT



6407-448



6407-471



# BOILER/WATER PLANT

## Decontamination and Demolition of the Boiler Plant/Water Plant Complex.

*(Left Photo)*

- Workers prepare the 100,000 gallon Break Tank for demolition.

*(Right Photo)*

- An Operating Engineer shears the Break Tank. The tank will later be size reduced and loaded into roll-off containers.



# BOILER/WATER PLANT



6407D-476



640D-486



# BOILER/WATER PLANT

## Decontamination and Demolition of the Boiler Plant/Water Plant Complex.

*(Left Photo)*

- An Operating Engineer uses a shear to take down the North Bay columns.

*(Right Photo)*

- An Operating Engineer uses the shear to segregate material while completing the demolition of the North Bay columns.



# THORIUM/PLANT 9 COMPLEX



6494-173D



6494-177D



# THORIUM/PLANT 9 COMPLEX

The decontamination and demolition of Thorium/Plant 9 Complex will include the removal of Plant 9, Building 32 (former Magnesium Warehouse), Buildings 64 and 65 (former Thorium Warehouses), Building 69 (Decontamination Building), Building 78 (Decontamination and Decommissioning), and Building 81 (Plant 9 Warehouse).

*(Left Photo)*

- D & D Laborers remove process equipment from Plant 9.

*(Right Photo)*

- D & D Laborers use a manlift to dismantle overhead lines.



# SILO 3 SMALL SCALE WASTE RETRIEVAL PROJECT



6759-950



6759-138



## **SILO 3 SMALL SCALE WASTE RETRIEVAL PROJECT**

**The Silo 3 Small Scale Waste Retrieval Project (SSWR), Phase I of the Silo 3 Project, will provide approximately 125ft<sup>3</sup> of actual Silo 3 material for bidders on the Silo 3 RFP to test. The material will be drummed into 30 gallon drums over packed into 55 gallon drums, sampled, then shipped to the bidders. Treatability tests on actual Silo 3 material will provide more realistic results and create a higher degree of confidence for full-scale treatment of Silo 3 material. Additional physical characteristic data will be obtained on a grab sample of the material retrieved at or near the bottom of Silo 3. There have not been any samples obtained from this location of the silo. Prior to retrieval of actual material from Silo 3, a mock-up is being performed on Silo 4.**

***(Left Photo)***

- From inside Silo 4, the hot tap drill with a 2-3/4" drill bit penetrates the Decant Port #4 baffle.**

***(Right Photo)***

- A Small Scale Waste Retrieval Operations Supervisor measures the auger installed through Decant Port #4 weir and baffle. This simulates how the auger will be used inside Silo 3 during the actual waste retrieval.**



# SOUTHERN WASTE UNITS



67340-357



67340-362



# SOUTHERN WASTE UNITS

The remediation of the Southern Waste Units (Inactive Flyash Pile, South Field, and Active Flyash Pile) will be performed in two phases, site preparation and excavation. Site preparation will consist of all work necessary to prepare the site for excavation and a stormwater management system. Excavation will include, excavation, treatment/disposition of impacted material and interim restoration of the Southern Waste Units.

*(Left Photo)*

- Workers prepare to move a manhole for a retention basin lift station.

*(Right Photo)*

- Workers backfill the anchor trench on retention basin #2.



# PADDY'S RUN EMBANKMENT STABILIZATION PROJECT



6690-46



6690-53



# PADDY'S RUN EMBANKMENT STABILIZATION PROJECT

Approximately 5,000 tons of riprap were placed on the east bank of Paddy's Run Creek to prevent further erosion of the creek near Silos 1 and 2.

*(Both Photos)*

- Stabilized creek bank.



# AQUIFER RESTORATION



62610-327



# AQUIFER RESTORATION

## Extraction/Injection Wells

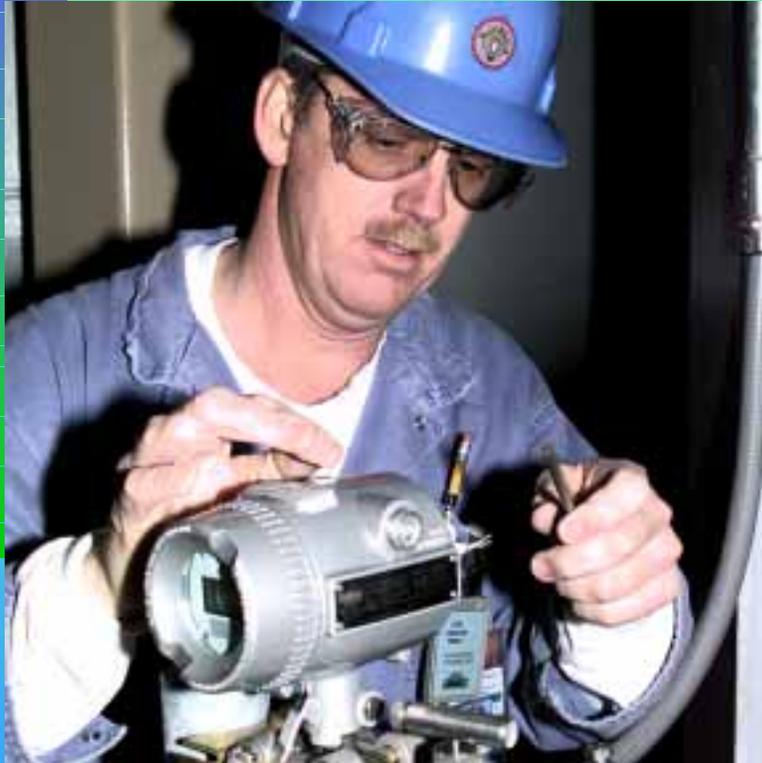
The remediation of the Great Miami Aquifer will be achieved by area-specific groundwater restoration modules. These modules include, the South Plume Removal Action currently in operation, South Plume Optimization, South Field Extraction System Phase I, and the EM-50 sponsored Injection Demonstration, all of which are scheduled to begin operations in 1998.

*(Left Photo)*

- A 50,000 gallon surge tank is being installed as part of the injection demonstration project.



# ADVANCED WASTEWATER TREATMENT UPGRADE (AWWT)



5531A-1018D



5531A-1030D



# ADVANCED WASTEWATER TREATMENT UPGRADE (AWWT)

The expansion project at the AWWT is being dedicated to the treatment of extracted groundwater. The expansion will increase the handling capacity by 1500 gpm, which in turn will assist in decreasing the remediation time of the aquifer.

*(Left Photo)*

- An Electrician installs instrumentation.

*(Right Photo)*

- A Pipefitter installs one inch instrument air lines for tank gauges.



# SEWAGE TREATMENT PLANT



6607-107D



6607-112D



# SEWAGE TREATMENT PLANT

**A new Sewage Treatment Plant (STP) is being constructed to continue sanitary sewage treatment while the existing STP and surrounding area is remediated to allow for the On-Site Disposal Facility construction. Existing equipment from the Bionitrification Effluent Treatment System has recently been relocated and will be reconfigured, along with new equipment and some existing STP equipment, as a new site Sewage Treatment Plant.**

## ***(Left Photo)***

- **Electricians thread conduit for the UV system control wiring.**

## ***(Right Photo)***

- **An Electrician installs conduit in the UV building.**



# T-HOPPER REPACKAGING PROJECT



6714-88



6714-90



## T-HOPPER REPACKAGING PROJECT

T-hoppers were once used as bulk shipping containers for uranium products throughout the DOE complex. The T-hoppers on the Fernald site contain uranium trioxide ( $UO_3$ ) that is less than 1% by weight  $U_{235}$ . The uranium trioxide has been sold to an external customer and requires specific packaging. A drumming station is being constructed at Plant 6 to dump and package the uranium trioxide into 55 gallon drums to meet the external customer's material handling requirements.

### *(Left Photo)*

- An operator checks the locking mechanism on the T-Hopper turner.

### *(Right Photo)*

- The contents of an inverted T-Hopper on top of the drumming station is emptied into 55 gallon drums.



# NUCLEAR MATERIALS DISPOSITION PROJECT - DEPLETED INGOTS



6645-9



6645-34



# NUCLEAR MATERIALS DISPOSITION PROJECT - DEPLETED INGOTS

Approximately 1.5 million pounds of depleted ingots in Plant 6 have been packed for the final disposition decision on the material. The ingots were packaged and moved in advance of Safe Shutdown activities.

*(Left Photo)*

- Depleted ingots prior to packaging.

*(Right Photo)*

- Plant 6 Rolling Mill area after the depleted ingots have been packaged.



# NUCLEAR MATERIALS DISPOSITION PROJECT - ENRICHED INGOTS



5645-5



5645-27



# NUCLEAR MATERIALS DISPOSITION PROJECT - ENRICHED INGOTS

Approximately 2.6 million pounds of enriched material have been sold to an off-site vendor. The packaging and shipping of the material are scheduled to be complete by December 1998.

*(Left Photo)*

- Enriched ingots prior to packaging.

*(Right Photo)*

- Plant 6 enriched material storage area after packaging.



# DIOCTYL PHTHALATE FACILITY



6813-15



6813-4



## **DIOCTYL PHTHALATE FACILITY**

**The High-Efficiency Particulate Air (HEPA) filters used at the Fernald site in support of cleanup activities are routinely maintained and checked for efficiency. The Dioctyl Phthalate (DOP) shop technicians inspect the vacuums to ensure that they operate at a 99.97 percent efficiency.**

***(Left Photo)***

- **DOP technicians check the calibration of test equipment.**

***(Right Photo)***

- **A DOP technician inspects a vacuum system used in asbestos removal.**